

The Effects of International Technology Diffusion Channels on the Innovation Activities of Firms in the Manufacturing Industry: An Empirical Study in the Case of Turkey

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Abstract

The increasing pressure of competition in a globalizing world obligates the economies that aim to grow rapidly to strengthen their market share. This, on the other hand, requires technological innovation, and its primary source, scientific knowledge. Hence, the main aim of this study is to investigate the impact of the channels of technological spillovers on the innovation performance of the firms that operate in Turkish manufacturing industry by using technology absorptive capacity and new product sales as indicators. In this study, 890 observations that belong to 345 firms for the period of 2009–2016 are obtained by matching approximately 360.000 of the survey data of the Business Statistics, Research and Development Activities and Innovation. Findings estimated by the Panel Data Fixed Effects method indicate that domestic research and development stocks and particularly technology absorptive capacity have a significant and a strong positive effect on the innovation performance of the firms. The technology diffusion channel that has the biggest impact on the innovation performance is foreign direct investment (FDI), and, then, exports. The positive and significant impact of the firm size on the innovation performance indicates the existence of a positive relationship between economies of scale and the innovation performance. Consequently, the government should support domestic firms to increase new product sales by promoting R&D activities, and FDI which is considered to be the most important international spillovers channel. These two strategies can lead to a long-term economic growth.

Keywords: International Technology Diffusion Channels, Innovation Performance, Technology Absorptive Capacity, Foreign Direct Investment, Technology Transfer.

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